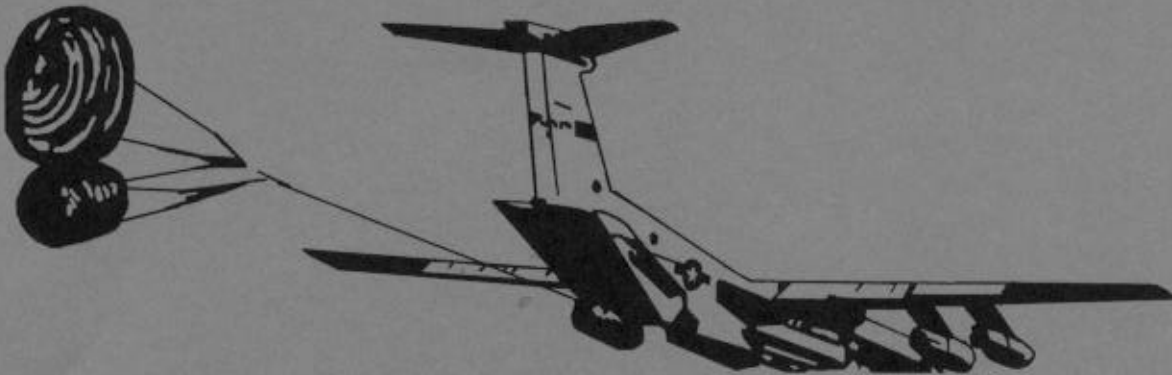
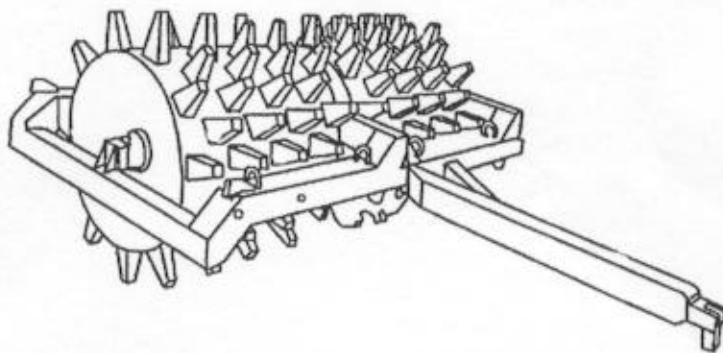


**C6, ARMY FM 10-528
AIR FORCE TO 13C7-26-71**



AIRDROP OF SUPPLIES AND EQUIPMENT: RIGGING ROAD ROLLERS



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Washington, DC, 14 August 1998

AIRDROP OF SUPPLIES AND EQUIPMENT:

RIGGING ROAD ROLLERS

This change adds the procedures for rigging the 13-wheel (model PT-13) towed roller for low-velocity airdrop on a type V platform.

FM 10-528/TO 13C7-26-71, 25 November 1977, is changed as follows:

1. New or changed material is identified by a vertical bar (|) in the margin opposite the changed material.
2. File this transmittal sheet in front of the publication for reference purposes.
3. Remove old pages and insert new pages as indicated below:

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Cover 1
v through viii
1-1
.....

Insert pages

Cover 1
v through viii
1-1
12-1 through 12-20

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PREFACE

SCOPE

This manual tells and shows how to prepare and rig the following road rollers for low-velocity airdrop on type II platform from C-130, and C-141 aircraft: the 7- to 35-ton, W-2, MDG 96, vibrating, and 13-wheel. This manual also gives procedures for rigging the W-2, MDG 96, vibrating and 13-wheel towed road rollers for LAPE airdrop on the metric platform from C-130 aircraft. Additionally, procedures are given for rigging the following towed road rollers for low-velocity airdrop on the type V platform from C-130, C-141, C17, and C5 aircraft: the 11-wheel, 13-wheel, Type I, M435, MDG 96 and 13-wheel (Model PT-13). This manual gives procedures for rigging the Type I and M435 towed road rollers for LAPE airdrop on the type V platform from C-130 aircraft. It is designed to be used by all parachute riggers.

USER INFORMATION

The proponent of this publication is HQ TRADOC. You are encouraged to report any errors or omissions and to suggest ways to make this a better manual. Army personnel, send comments on DA Form 2028 directly to:

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Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

CHAPTER 1 INTRODUCTION

1-1. Description of Items

The towed road rollers covered in this manual are listed below. Dimensions and weights are given in the description of items paragraph in each chapter.

- a. 7- to 35-ton ballast pneumatic tire roller
- b. Model W-2 sheepsfoot roller
- c. Model MDG 96 sheepsfoot roller
- d. 13-wheel pneumatic tire roller
- e. 11-wheel pneumatic tire roller
- f. M435 4- to 35-ton ballast pneumatic tire roller
- g. Type I, SM 54 vibrating smooth drum roller
- h. DED gas/VP4D diesel vibrating roller
- i. 13-wheel Model (PT-13) pneumatic tire roller

1-2. Special Considerations

A copy of this manual should accompany the rigged load to the aircraft. The loads covered in this manual may include hazardous materials such as explosives, gasoline, or batteries. When included, and labeled according to AFJMAN 24-204/TM 38-250.

CHAPTER 12

RIGGING THE 13-WHEEL (MODEL PT-13) TOWED ROLLER ON A TYPE V PLATFORM FOR LOW-VELOCITY AIRDROP

12-1. Description of Load

The 13-wheel (Model PT-13) towed roller is rigged on a 12-foot, type V airdrop platform with two G-11 cargo parachutes. The roller weighs approximately 4,700 pounds unloaded. It is 140 1/2 inches long, 58 inches high, and 96 inches wide. The total rigged weight of this load is 6,582 pounds.

12-2. Preparing Platform

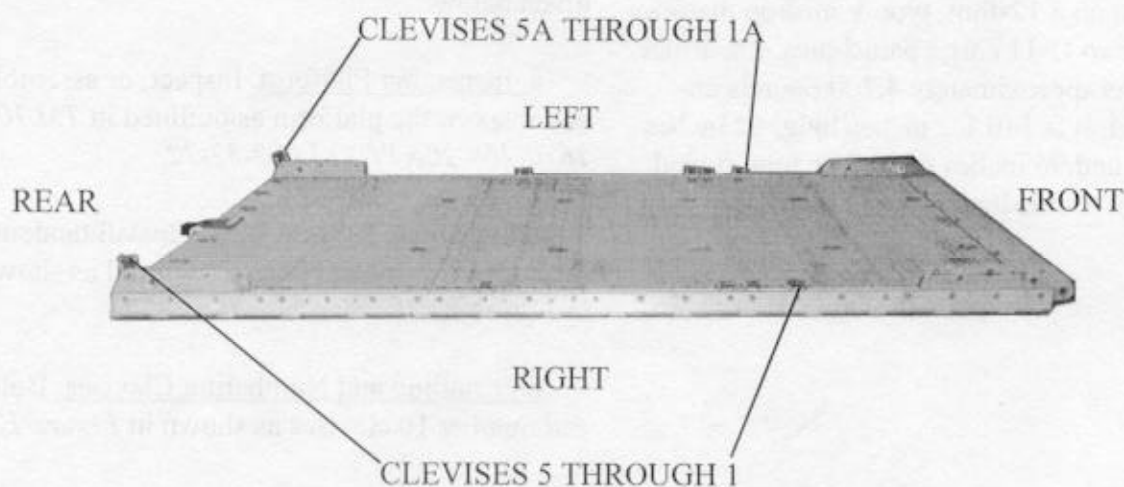
Prepare a 12-foot, type V airdrop platform as given below.

a. Inspecting Platform. Inspect, or assemble and inspect, the platform as outlined in *TM 10-1670-268-20&P/TO 13C7-52-22*.

b. Installing Tandem Links. Install tandem links on the front and rear of each rail as shown in *Figure 12-1*.

c. Installing and Numbering Clevises. Bolt and number 10 clevises as shown in *Figure 12-1*.

- Notes:**
1. The nose bumper may or may not be installed.
 2. Measurements given in this chapter are from the front edge of the platform, NOT from the front edge of the nose bumper.



Step:

1. Inspect, or assemble and inspect, the platform according to TM 10-1670-268-20&P/TO 13C7-52-22.
2. Install a tandem link on the front of each platform side rail using holes 1, 2, and 3.
3. Install a tandem link on the rear of each platform side rail using holes 22, 23, and 24.
4. Install a platform clevis on tandem link bushing 4.
5. Starting at the front of each platform side rail, install clevises on the bushings bolted on holes 7, 8, 9, and 15.
6. Starting at the front of the platform, number the clevises 1 through 5 on the right side and 1A through 5A on the left side.
7. Label the tie-down rings according to FM 10-500-2/TO 13C7-1-5.

Figure 12-1. Platform prepared

12-3. Preparing and Positioning Honeycomb Stacks

Prepare the honeycomb stacks as shown in *Figures 12-2 and 12-3*. Position the honeycomb stacks on the platform as shown in *Figure 12-4*.

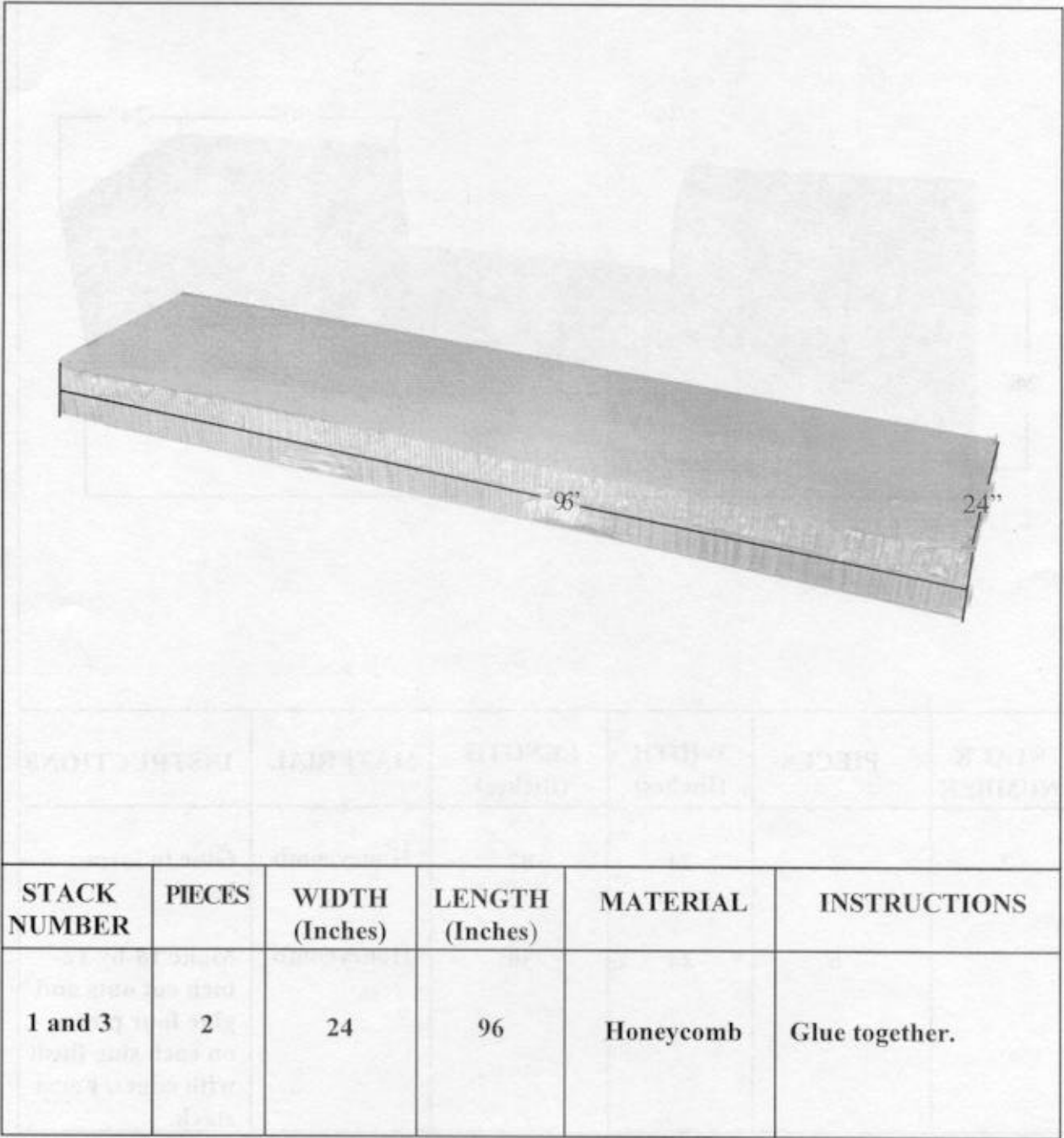
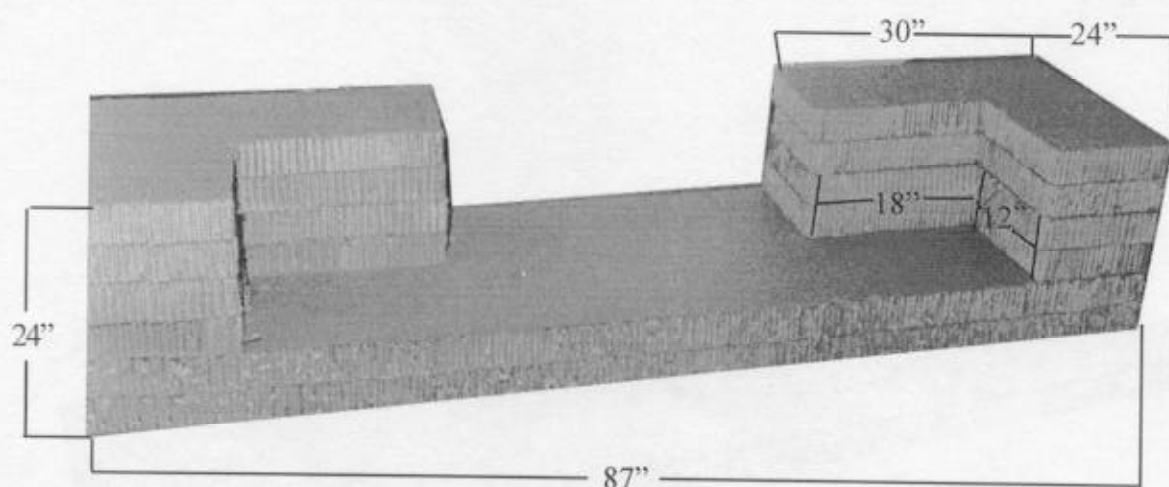
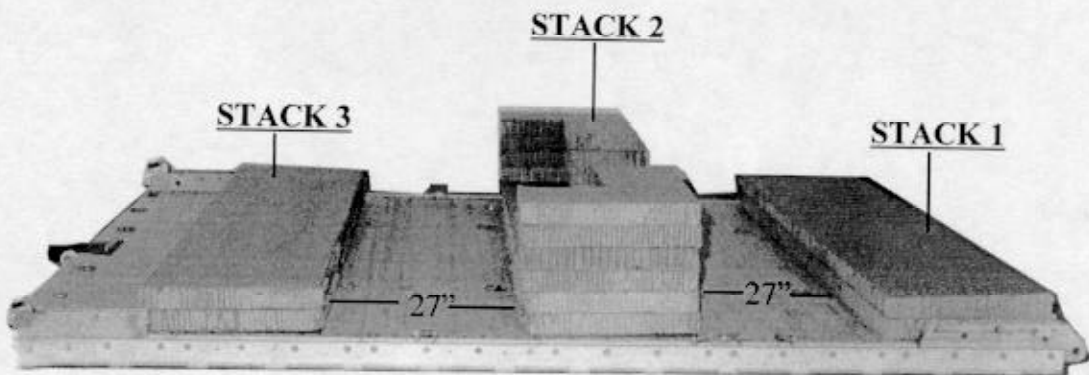


Figure 12-2. Honeycomb stacks 1 and 3 prepared



STACK NUMBER	PIECES	WIDTH (Inches)	LENGTH (Inches)	MATERIAL	INSTRUCTIONS
2	2	24	87	Honeycomb	Glue to form base.
	8	24	30	Honeycomb	Make 18-by 12-inch cut outs and glue four pieces on each side flush with edges. Form stack.

Figure 12-3. Honeycomb stack 2 prepared

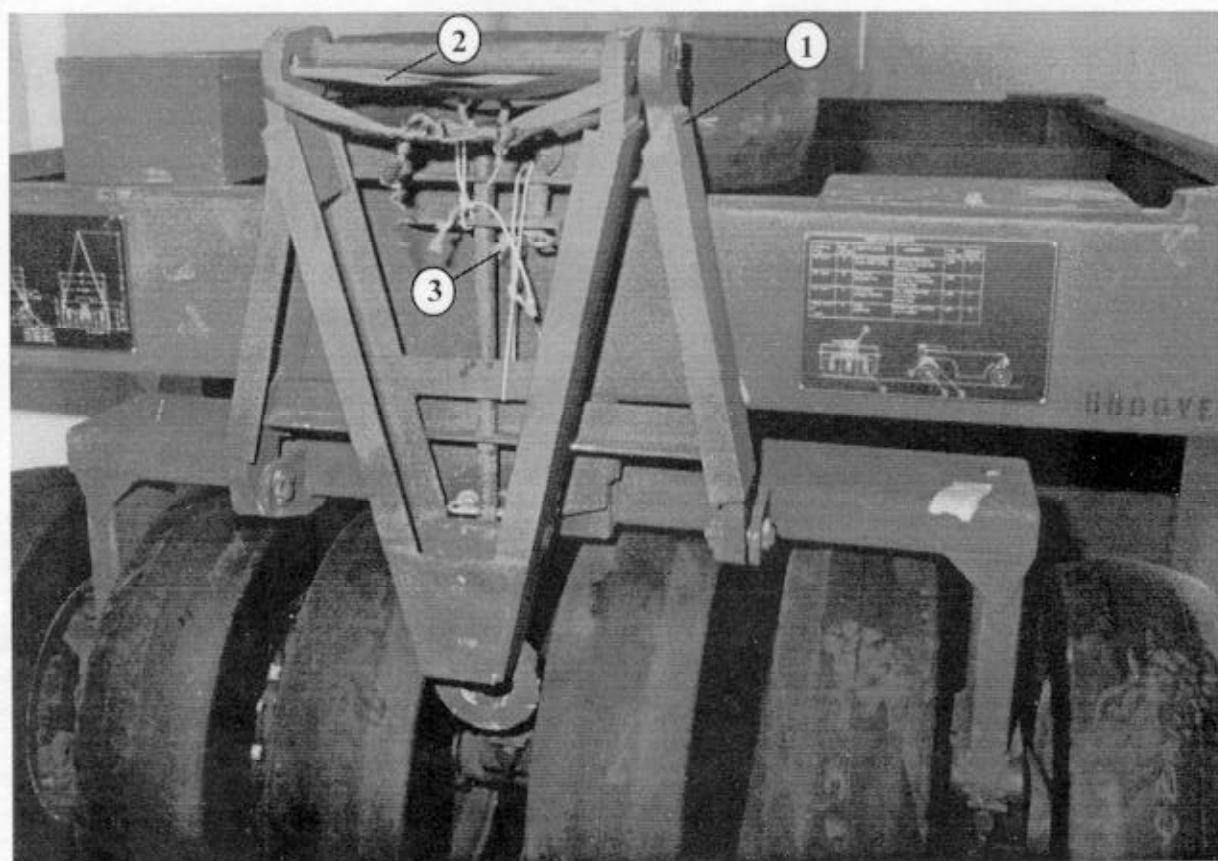


STACK NUMBER	POSITION OF HONEYCOMB STACKS ON PLATFORM
1	Place stack: Centered and flush with front edge of the platform.
2	Centered and 27 inches from the rear of stack 1.
3	Centered and 27 inches from the rear of stack 2.

Figure 12-4. Honeycomb stacks positioned on platform

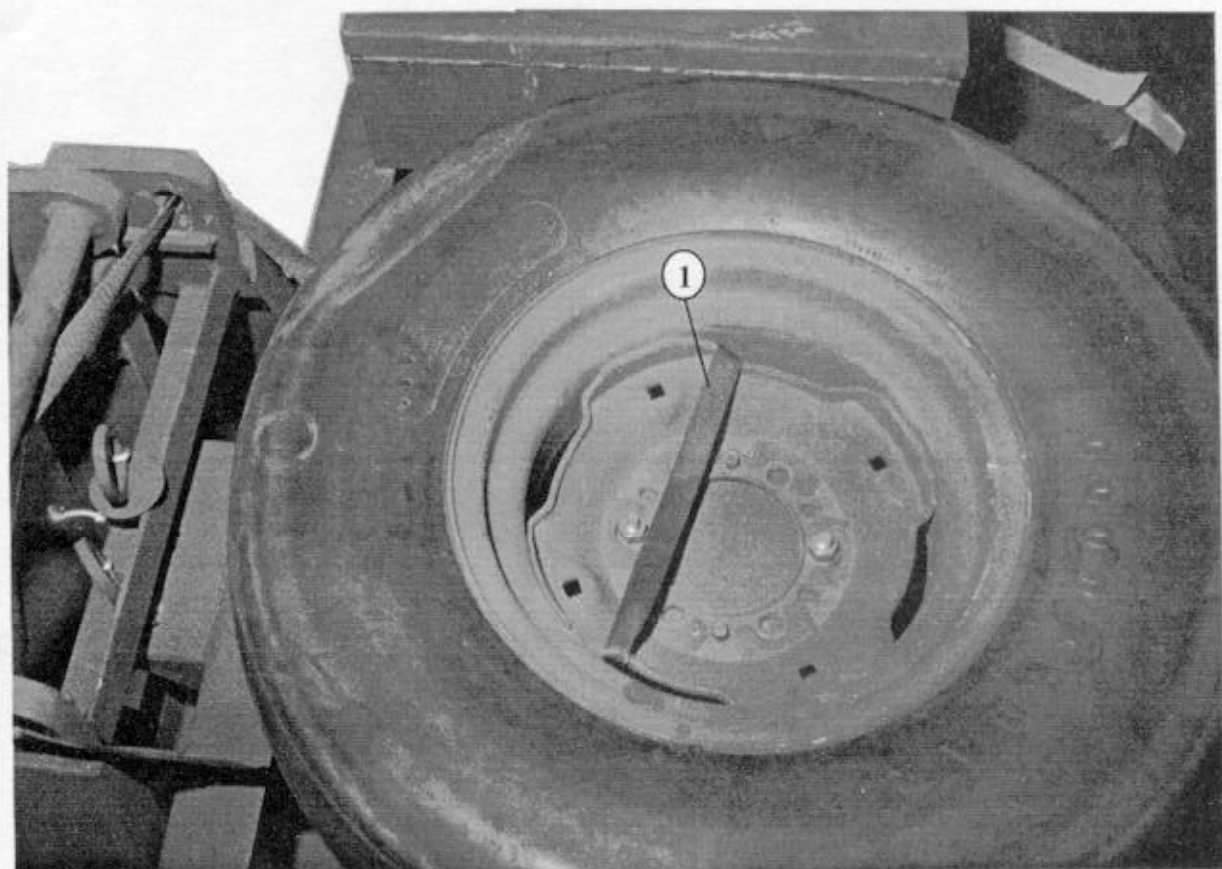
12-4. Positioning and Securing Towing Tongue and Spare Tire

Position and secure the towing tongue and spare tire according to *Figures 12-5 and 12-6*.



- ① Place the towing tongue in the up and folded position and lock it in place.
- ② Safety the two halves of the tongue together at the top joint using a length of 1-inch tubular nylon webbing. Run the webbing through pin eyes of the front section and rear section in a figure eight configuration.
- ③ Safety the locking pins in place with type III nylon cord.

Figure 12-5. Towing tongue secured



- ① Safety the spare tire to the roller with a length of 1-inch tubular nylon webbing.

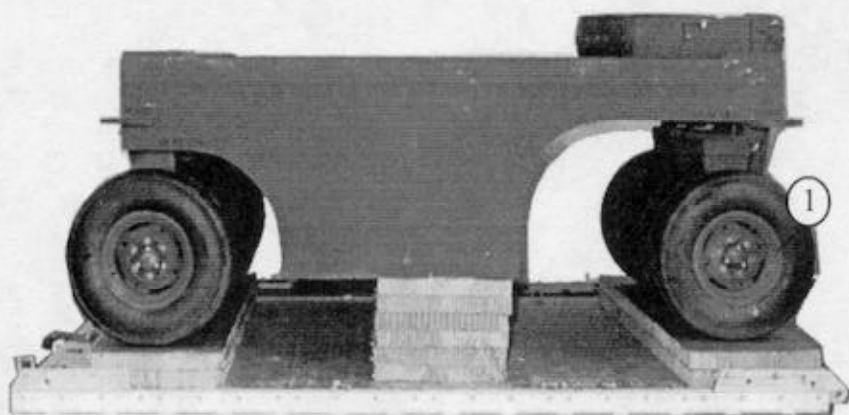
Figure 12-6. Spare tire safetied

12-5. Installing Lifting Slings

Install four 12-foot (2-loop), type XXVI nylon webbing slings to the four lifting provisions on the roller using four medium suspension clevises.

12-6. Positioning Roller

Position the roller on the honeycomb stacks as shown in *Figure 12-7*.

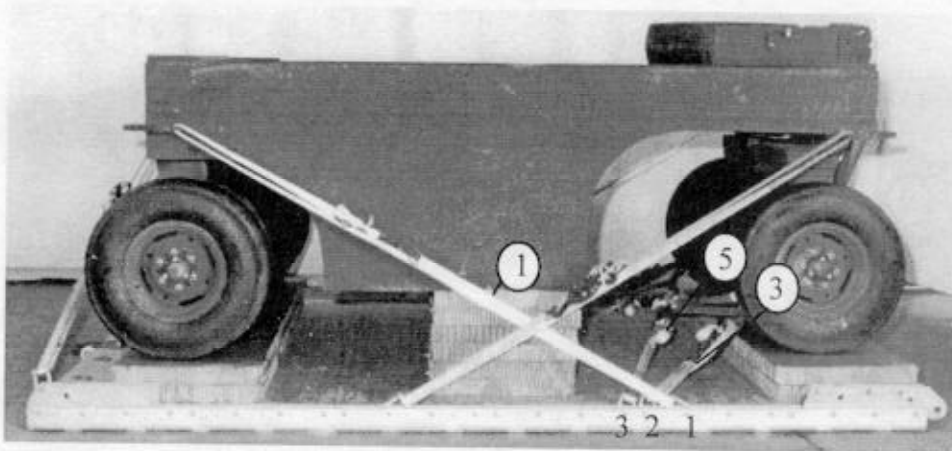


- ① Set the roller on the honeycomb stacks centered with the front wheels even with front edge of the platform.

Figure 12-7. Roller positioned on honeycomb stacks

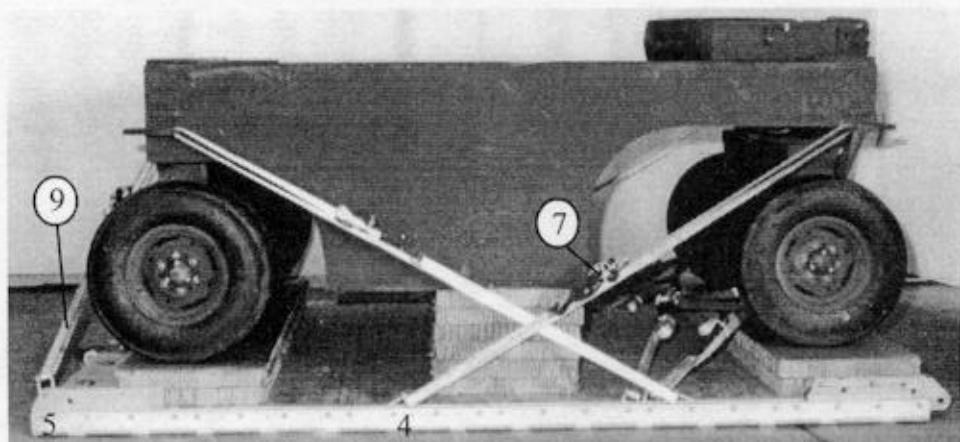
12-7. Lashing the Roller to the Platform

Lash the roller to the platform as shown in *Figures 12-8 and 12-9* and according to FM 10-500-2/TO 13C7-1-5.



LASHING NUMBER	CLEVIS NUMBER	INSTRUCTIONS
1	1	Pass lashing: Through right rear lifting point.
2	1A	Through left rear lifting point.
3	2	Around axle of first right wheel right side.
4	2A	Around axle of first left wheel left side.
5	3	Around axle of wheel next to far left wheel.
6	3A	Around axle of second wheel from right side.

Figure 12-8. Lashings 1 through 6 installed

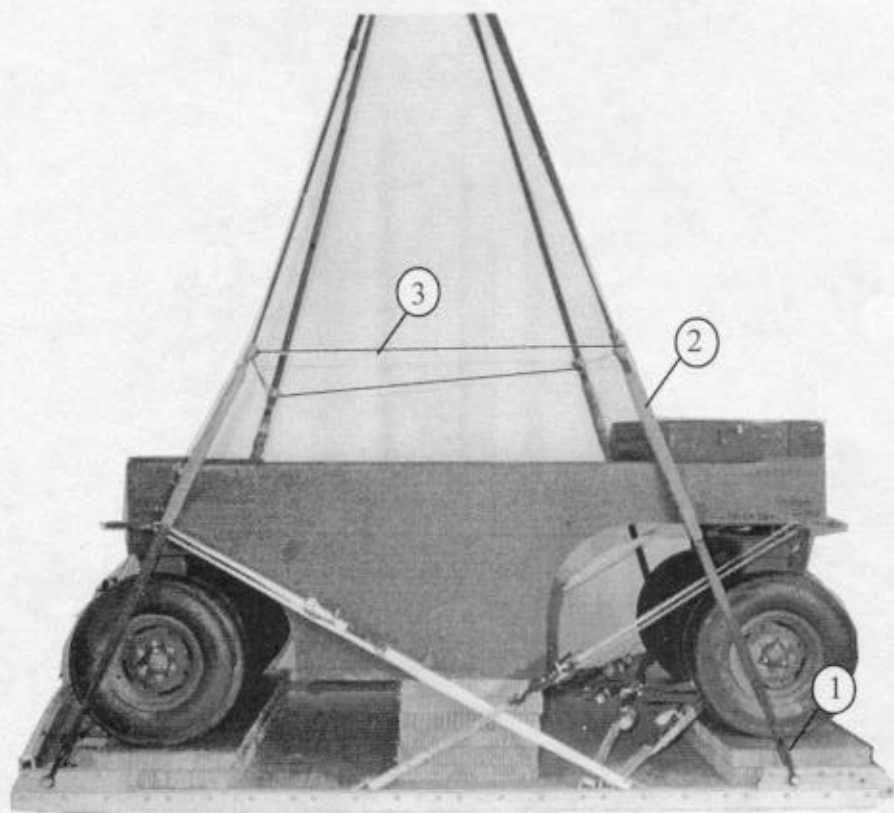


LASHING NUMBER	CLEVIS NUMBER	INSTRUCTIONS
7	4	Pass lashing: Through right front lifting point.
8	4A	Through left front lifting point.
9	5	Through lunette.
10	5A	Through lunette.

Figure 12-9. Lashings 7 through 10 installed

12-8. Installing and Safetying Suspension Slings and Deadman's Tie

Install and safety four 16-foot (2-loop), type XXVI nylon webbing slings to the tandem links as shown in *Figure 12-10*.

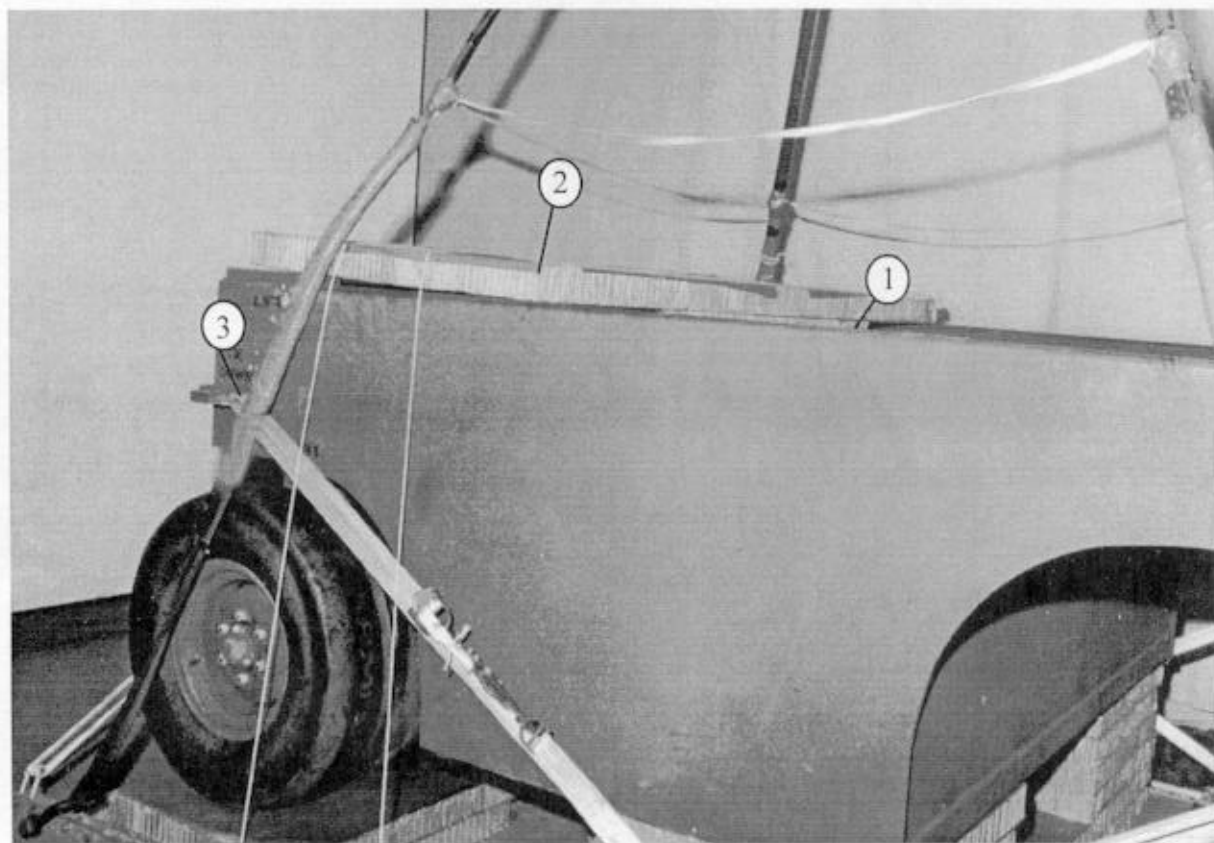


- ① Place a large clevis in one end of the four 16-foot (2-loop), type XXVI nylon suspension slings. Attach the large clevises to each suspension link.
- ② Pad the slings with felt and pressure sensitive tape from top of the tires to 8 inches above the top of the load.
- ③ Raise the slings and install the Deadman's tie according to FM 10-500-2/TO 13C7-1-5.

Figure 12-10. Suspension slings and Deadman's tie installed

12-9. Building and Positioning Parachute Stowage Platform

Build and position the parachute stowage platform as shown in *Figure 12-11*.

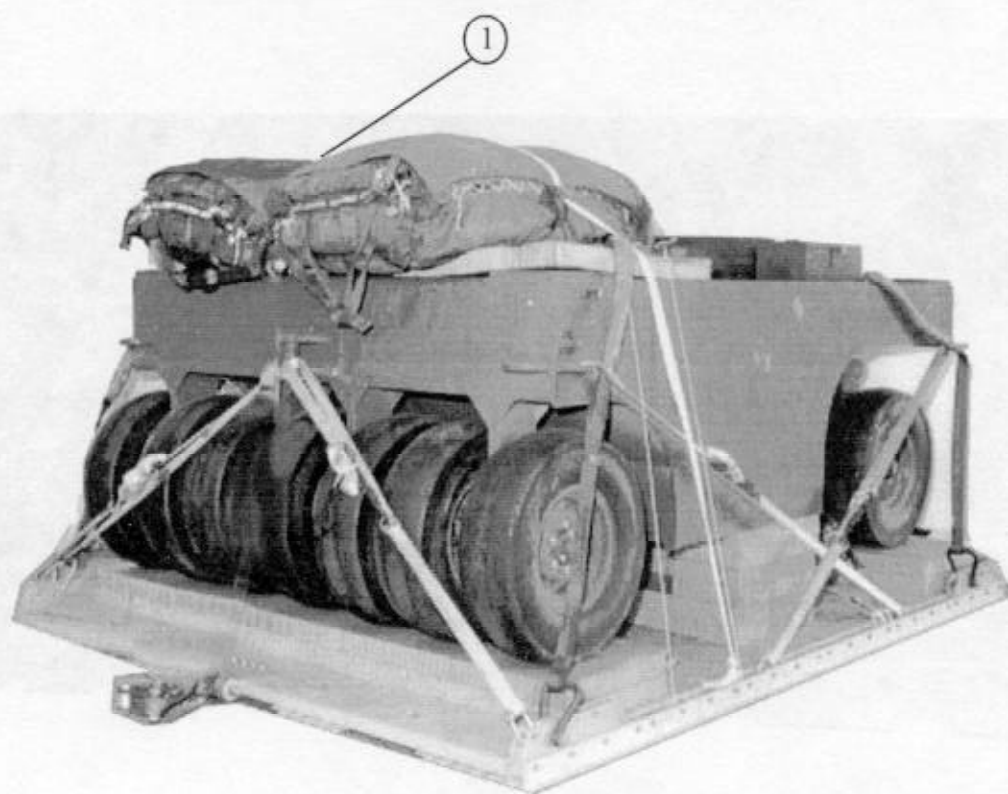


- ① Cut and glue ten 12- by 26-inch pieces of honeycomb together and place the stack in the roller against the rear section.
- ② Cut a 36- by 86-inch piece of honeycomb and place it on top of the stack in step 1, and secure it in place with two lengths of type III nylon cord.
- ③ Saftey tie the rear suspension slings to the roller frame with type III nylon cord.

Figure 12-11. Parachute stowage platform built and positioned

12-10. Installing Cargo Parachutes

Install two G-11 cargo parachutes on the load according to FM 10-500-2/TO 13C7-1-5 and as shown in *Figure 12-12*.

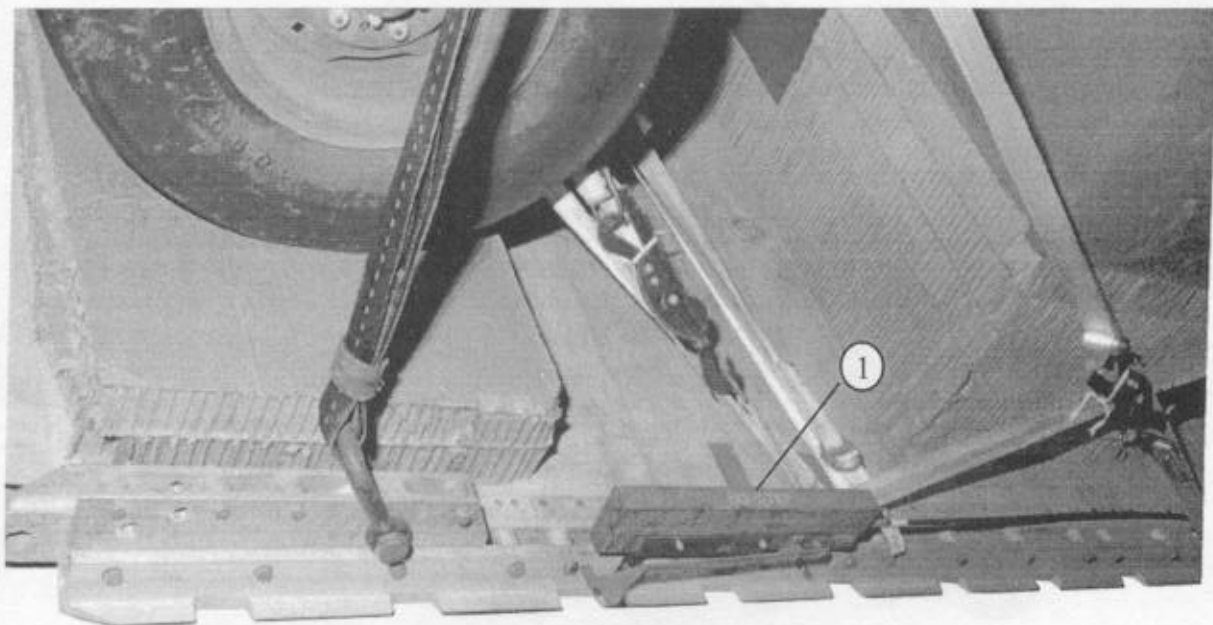


- ① Prepare, stow and restrain two G-11 cargo parachutes on top of the honeycomb provided and according to FM 10-500-2/TO 13C7-1-5.

Figure 12-12. Parachutes stowed

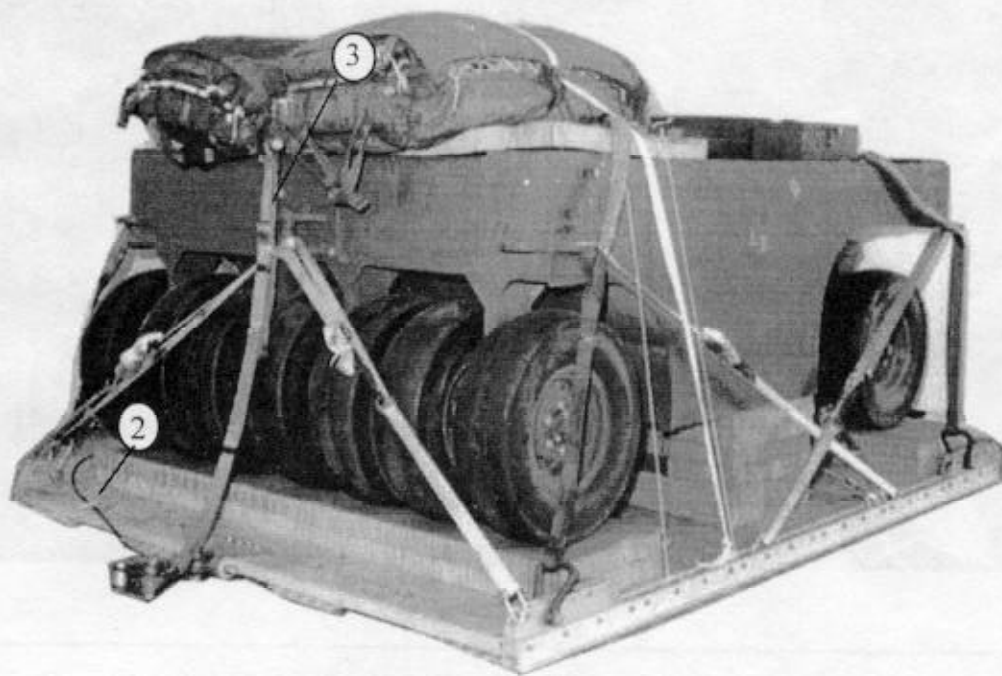
12-11. Installing Extraction System

Install the EFTC system according to FM 10-500-2/TO 13C7-1-5 and as shown in *Figure 12-13*.



- ① Install the components of the extraction force transfer coupling (EFTC) according to FM 10-500-2/TO 13C7-1-5. Use the forward mounting holes for the EFTC bracket.

Figure 12-13. EFTC installed

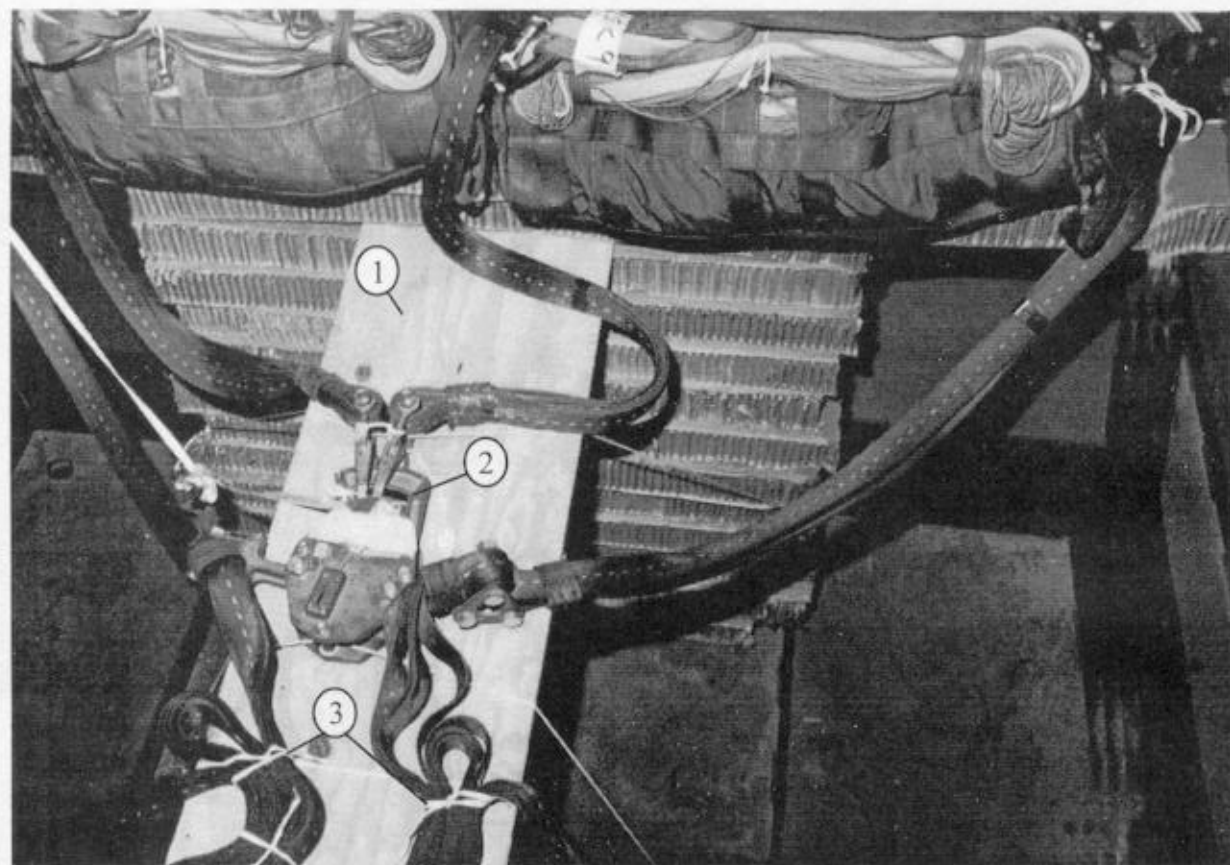


- ② Using a 12-foot EFTC cable, safety the cable to deck ring D6 using one turn of type I, 1/4-inch cotton webbing.
- ③ Attach a 9-foot (2-loop), type XXVI nylon sling to be used as a deployment line.

Figure 12-13. EFTC installed (continued)

12-12. Installing Parachute Release

Install an M-1 cargo parachute release according to FM 10-500-2/TO 13C7-1-5, and as shown in *Figure 12-14*.



- ① Cut a piece of 3/4-inch plywood 16- by 60-inches. Wedge one end of the plywood between the top two pieces of honeycomb of the parachute platform stack and set the other end on the bottom of the roller. Secure the plywood in place with type III nylon cord.
- ② Place the M-1 release centered on top of the plywood in step 1, and safety it to convenient points on the load.
- ③ Fold and tie all slack in the suspension slings.

Figure 12-14. M-1 release installed

12-13. Installing Provisions for Emergency Restraints

Select and install provisions for emergency restraints according to the emergency aft restraint requirements table in FM 10-500-2/TO 13C7-1-5.

12-14. Placing Extraction Parachute

Select the extraction parachute and extraction line needed using the extraction line requirements table in FM 10-500-2/TO 13C7-1-5. Place the extraction parachute and extraction line on the load for installation in the aircraft.

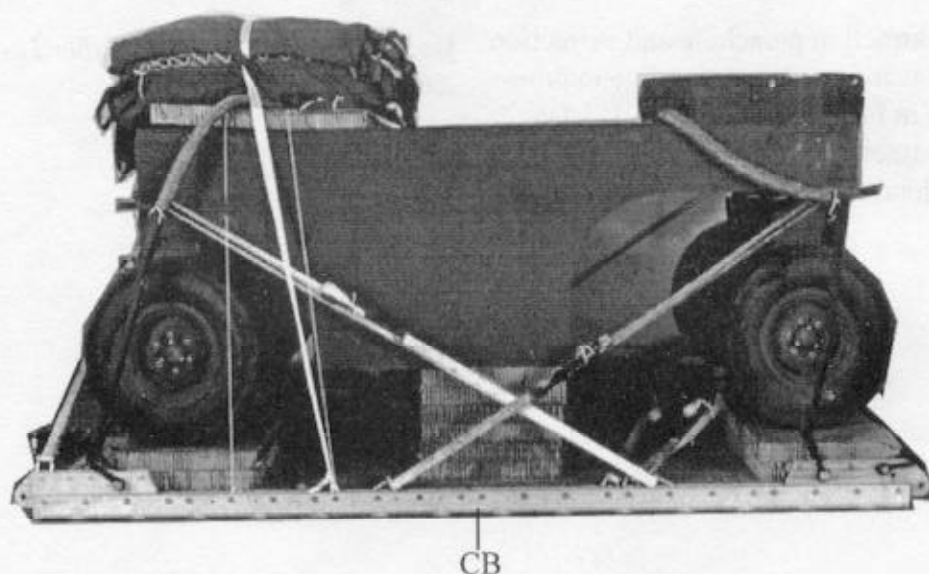
12-15. Marking Rigged Load

Mark the rigged load according to FM 10-500-2/TO 13C7-1-5 and as shown in *Figure 12-15*. If the load varies from the one shown, the weight, height, CB, tip-off curve, and parachute requirement must be recomputed.

12-16. Equipment Required

Use the equipment list in *Table 12-1* to rig this load.

*Make the final rigger inspection required
by FM 10-500-2/TO 13C7-1-5 before the
load leaves the rigging site.*



RIGGED LOAD DATA

Weight:	Load shown	6,582 pounds
	Maximum load allowed	6,700 pounds
Height		75 inches
Width		108 inches
Length		162 inches
Overhang:	Front	0 inches
	Rear	0 inches
CB (from edge of platform)		68 inches
Extraction System (adds 18 inches to length of platform)		EFTC

Figure 12-15. Thirteen wheel (model PT-13) towed roller rigged on a type V platform for low-velocity airdrop

Table 12-1. Equipment required for rigging the 13-wheel (model PT-13) towed roller on a type V platform for low-velocity airdrop

NATIONAL STOCK NUMBER	ITEM	QUANTITY
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4030-00-678-8562	Clevis, suspension:	
4030-00-090-5354	3/4-inch, shackle (medium)	4
	1-inch, shackle (large)	5
4020-00-240-2146	Cord, fibrous, nylon, type III, (550-lb)	As required
1670-00-434-5783	Coupling assembly, airdrop, extraction force transfer with 12-ft cable (42K)	1
1670-00-360-0328	Cover, Clevis, large	2
8305-00-958-3685	Felt, 1/2-in thick	As required
1670-00-003-4391	Knife, parachute bag (C-17)	1
5340-00-040-8219	Knife, Multi parachute release, strap, webbing	1
1670-01-183-2678	Leaf, extraction line	As required
1670-01-064-4452	Line, extraction:	
	60-ft (1-loop), type XXVI nylon webbing (C-130 aircraft)	1
1670-01-107-7652	160-ft (1-loop), type XXVI nylon webbing (C-141, C-5 aircrafts)	1
	(C-17 only)	2
1670-00-783-5988	Link assembly, single, type IV (C-17 only)	1
1670-00-753-3928	Pad, energy-dissipating, AD (honeycomb)	12 sheets
	Parachute:	
1670-01-016-7841	Cargo, G-11B (100-ft, dia)	2
1670-01-063-3715	Cargo extraction, 15-ft	1
1670-00-003-1953	Plate, side, 3 3/4-in., Arm, cargo extra (C-17 only)	2
5365-00-077-3414	Spacers, large	(2)
5305-00-435-8994	Bolts, 1-in diam., 4-in long	(2)
5310-00-232-5165	Nuts, 1-in	(2)
	Platform, AD, type V, 12-ft:	
1670-01-353-8425	Bracket, assembly component, (EFTC)	1
1670-01-353-8424	Bracket, assembly extraction	(1)
1670-01-163-2372	Clevis assembly (type V, tiedown clevis)	(10)

Table 12-1. Equipment required for rigging the 13-wheel (model PT-13) towed roller on a type V platform for low-velocity airdrop (continued)

NATIONAL STOCK NUMBER	ITEM	QUANTITY
1670-01-162-2381	Tandem link assembly (Multi-purpose link)	(4)
5530-00-618-8073	Plywood, construction, (3/4-inch)	1 sheet
1670-01-097-8816	Release, cargo parachute, M-1 Sling, cargo airdrop:	1
	For deployment:	
1670-01-062-6304	9-ft (2-loop), type XXVI nylon webbing	1
	For lifting:	
1670-01-062-6303	12-ft (2-loop), type XXVI nylon webbing	4
	For suspension:	
1670-01-063-7761	16-ft (2-loop), type XXVI nylon webbing	4
	For riser extension:	
1670-01-062-6302	20-ft (2-loop), type XXVI nylon webbing	2
7510-00-266-6712	Tape, adhesive, masking, (2-in)	As required
7510-00-079-7906	Tape, pressure sensitive, (2-in)	As required
1670-00-937-0271	Tie-down assembly, 15-ft	10
	Webbing:	
8305-00-268-2411	Cotton, 1/4-inch, type I, (80-lb)	As required
	Nylon:	
	Tubular:	
8305-00-082-5752	1/2-in, natural <u>or</u>	As required
8305-00-268-2453	1/2-in, olive drab	As required
8305-00-268-2455	1-in, olive drab	As required
8305-00-263-3591	Type VIII	As required